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Cover Page Footnote

International Law; Commercial Law; Law

Bridging the Global Digital Divide: Frameworks For Access and the World Wireless Web

*J.M. Spectar**

I. Introduction

North-South debates concerning access to information and equitable allocation of spectrum have often mired the international telecommunications negotiations of the last two decades. Many believed that the information and communications gaps between the North and South could be bridged only by normative restructuring schemes under the rubric of the New World Information and Communications Order (NWICO).¹ In the wake of the Internet revolution, some are waxing eloquently (and perhaps nostalgically) about new multilateral efforts to secure equitable and universal access to the Internet, even going so far as to designate the Web and the Internet as the new common heritage.² This article examines the approaches that the developing countries have adopted in the past to gain “equitable” access to telecom and information technology and makes several recommendations designed to increase the prospects for narrowing the global digital divide.³

The article contends that the NWICO-style normative framework for narrowing the North-South telecom divide has been ineffective and counter-productive because it has alienated the

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¹ The New World Information and Communications Order was an extension of the Third World’s New International Economic Order (NIEO) agenda that attempted to bring about fundamental changes in the structure of the international economy, thereby engineering massive North-South resource, wealth, and power reallocations through the use of norms. *See infra* notes 49-67 and accompanying text.

² *See infra* notes 192-201 and accompanying text.

³ *See infra* notes 68-110, 202-53 and accompanying text.

United States, an indispensable actor in any global telecommunications regime, particularly because of the NWICO's anti-market implications.⁴ In view of the "new order" debacle, the article makes several recommendations for bridging the global digital gap that are consistent with the limits of coeval international law and which take advantage of the possibilities created by revolutionary Low Earth Orbit (LEO) satellite technologies and wireless Internet applications.⁵

After outlining the nature of the global digital divide, this article discusses previous efforts to close the information and communications gap between developed countries (DCs) and the Less Developed Countries (LDCs), focusing on the "new order" approaches advocated by the LDCs.⁶ Next, the article examines the effort by the "new order" movements of the LDCs to gain access to global telecommunications through activism in the United Nations Educational Scientific and Cultural Organization (UNESCO).⁷ The article argues that the NWICO strategy has been counter-productive because it has alienated the United States, a necessary party for any realistic global telecommunications regime because of its technological and economic dominance.⁸

Section IV explores the prospects for narrowing the global digital divide through LEO-satellite-enabled wireless web technologies.⁹ Building on lessons learned from analyzing the NWICO approach to access, the article develops recommendations for bridging the global digital divide in the wireless Internet Age, while considering the limits of international law.¹⁰ The recommendations avoid the grandiose schemes of the "new order" movements, relying instead on the potential synergies created by revolutionary LEO-satellite-enabled wireless technologies, open markets and free trade, constructive partnerships, and the involvement of people from local to global levels.

⁴ See *infra* notes 68-144 and accompanying text.

⁵ See *infra* notes 205-49 and accompanying text.

⁶ See *infra* notes 68-110 and accompanying text.

⁷ See *infra* notes 78-110 and accompanying text.

⁸ See *infra* notes 111-44 and accompanying text.

⁹ See *infra* notes 145-84 and accompanying text.

¹⁰ See *infra* notes 205-53 and accompanying text.

A. Defining the Digital Divide

The “digital divide” is the differentiation or separation between those with access to the essential tools of the information society and those without such access.¹¹ It is the gap between those with access to the infrastructure of the networked society or economy (the tech-haves) and those who lack access (the tech have-nots).¹² Surveys measure the depth of the “digital divide” by comparing access to computers, phones, cable, and other Internet-related technologies.¹³

The growing consensus believes this divide is both reflective and symptomatic of extant economic and social barriers.¹⁴ In the United States, discussion of the digital divide generally focuses on the differential technology penetration between middle and upper income groups versus lower income groups, racial minorities, and rural communities.¹⁵ Research by the National Telecommunications and Information Administration (NTIA) shows that income level, race, and ethnic origin are strong determinants of a person’s or household’s Internet access in the United States.¹⁶ In addition, the NTIA report highlights the need to

¹¹ See, e.g., *Falling Through the Net: Defining the Digital Divide*, at <http://www.ntia.doc.gov/ntiahome/ftn99/contents.html> (Introduction) (last visited Oct. 24, 2000) [hereinafter *Falling Through the Net III*] (report prepared by the U.S. National Telecommunications and Information Administration (NTIA)). The NTIA plays a key role in collecting and disseminating information about the gap and the threat it poses. *Id.*

¹² *Id.* (Executive Summary).

¹³ *Id.*

¹⁴ See *id.*

¹⁵ See *id.*

¹⁶ *Id.* According to the NTIA, Black and Hispanic households in the United States are two-fifths as likely to have home Internet access as White households. *Id.* For those with incomes over \$75,000, the gap between White and Black households for computer ownership decreased by 76.2% between 1994 and 1998. *Id.* Native Americans place far below the national average in their access to telephones, computers, and the Internet. *Id.* Only 76.4% of rural Native American households have telephones, far below the national average (94.1%). *Id.* Similarly, their access to computers (34.3%) is significantly lower than the national average (42.1%), and Native Americans also lag behind in their access to the Internet (18.9%), compared to the national average (26.2%). *Id.* Rural Americans rank far below the national average in computer and Internet access, notwithstanding income level. *Id.* At nearly all income levels, rural households are significantly less likely to own computers than households in urban or inner city areas. *Id.* Rural Black households are a third less likely to own a computer than the average

institute policies designed to ease barriers to Internet usage among the poor, minorities, and persons in rural communities.¹⁷ In particular, the report examines access to personal computers, phones, modems, the Internet, cable, and other related services.¹⁸ Meanwhile, others urge policymakers to consider and address related “gaps” such as gender, geography, and generational differences to fully understand the dimensions of the problem.¹⁹

The digital divide is perceived to be widening, as the tech-haves leave the have-nots behind.²⁰ The Internet itself is seen as playing a Janus-faced role in the divide because many see the Internet as having the “power to increase or decrease the gap between rich and poor worldwide.”²¹ Nevertheless, as Lou Gerstner observed, the Internet may possibly contribute to a widening of the digital gap, but such an outcome is not “inevitable.”²²

The central question here is whether we are going to allow this technology to divide the world into two camps—one with access to technology and one without. We have the chance to close the

U.S. Black household and are two-fifths less likely to log on to the Web than the average U.S. Black household. *Id.*

¹⁷ *Digital Divide Summit*, Participants' Comments, at <http://www.ntia.doc.gov/ntiahome/digitaldivide/summit> (Dec. 9, 1999) [hereinafter *Digital Divide Summit*] (contribution of James Leslie, New York University). Some skeptics claim the economic nature and causes of the divide may be overstated. *Id.* They contend that the significance of economic barriers to access may diminish in importance as new advances in technology and competition in the computer and telecommunication industries lead to lower prices and more affordable access. *Id.* According to this view, the digital divide is merely a temporary phenomenon—“more of a short-term ‘lag’ that the market—not government—is best positioned to fix.” *Id.* Nevertheless, the NTIA report notes that while high incomes and falling prices for technology would eventually narrow the gap, waiting for prices to fall is a long-term solution to the racial aspect of the digital divide. *Falling Through the Net III*, *supra* note 11. In the short-term, community access centers (such as schools, public libraries, and community centers) may alleviate the racial connectivity divide. *Id.*

¹⁸ *Falling Through the Net III*, *supra* note 11.

¹⁹ *Id.* (contribution of Atul Dighe, Future Today).

²⁰ See *Client Perspectives, Champion of Change*, IFC Publications, at <http://www.ifc.org/ifc/publications/pubs/impact/imp99/s9clientibm/s9clientibm.html> (Spring 2000) [hereinafter *Client Perspectives*].

²¹ *Id.*

²² *Id.* Lou Gerstner is Chief Executive Officer of IBM.

gulf between the so-called information “haves” and “have nots” by giving the world’s people fair, affordable access to information technology and the Internet.²³

The differential technology penetration and access between the developed countries and the Less Developed Countries illustrates the growing global digital divide.²⁴ The digital divide in the United States parallels the North-South digital divide to the degree that the gap is primarily an economic divide between the rich and the poor and between whites and nonwhites.²⁵

Compared to the developing countries, most people in the United States live in digital heaven. A study by researchers at Stanford University revealed that over 50% of all Americans have access to the web, and the number is rising rapidly.²⁶ The Stanford Institute of Quantitative Study also found that more than one third of Americans spent more than five hours a week online.²⁷ While e-mailing is the biggest use of the Internet, the Stanford study found that more than half of Americans who use the web engage in activities such as information searching, reading, or Web surfing.²⁸

Furthermore, there are enormous infrastructure problems symptomatic of the digital divide. While developing countries

²³ *Id.*

²⁴ See *Falling Through the Net III*, *supra* note 11.

²⁵ See *id.*

²⁶ Katrina Woznicki, *Internet No Substitute for People*, at <http://www.onhealth.com/ch1/briefs/item,80116.asp> (Feb. 17, 2000). Most of the West enjoys relatively higher Internet access. *Client Perspectives*, *supra* note 20. Currently, seven countries other than the United States have approximately 10% of their populations using the Internet. *Id.*

²⁷ Katrina Woznicki, *Internet No Substitute for People*, at <http://www.onhealth.com/ch1/briefs/item,80116.asp> (Feb. 17, 2000). The rapid growth of Internet access is already creating controversy with some claiming that “the Internet can indeed harm people socially” to the degree that the use of “virtual networks” may be keeping people away from “real-time social network.” Katrina Woznicki, *Using the Web for Social Ties*, at http://onhealth.webmd.com/lifestyle/in-depth/item,91284_1_1.asp (May 31, 2000). Despite quasi-Luddist speculation about potential consequences of e-technologies, this writer is essentially optimistic, maintaining that “the Internet could help us participate in the world, become world citizens.” *Id.* See also, J.M. Spectar, *Hoping For Some Internet Individuality*, THE PROVIDENCE JOURNAL, FEB. 28, 2000 (arguing that “the Web lifestyle need not be insular, alienating and materialistic.”).

²⁸ Katrina Woznicki, *Internet Use Replacing Other Forms of Communication*, ONHEALTH, (Feb. 16, 2000) (on file with author).

have almost three-quarters of the world's population, they only have about 12% of the world's telephone lines.²⁹ Nearly 80% of the world's population do not have a telephone—a point often highlighted by the fact that there are more telephones in Manhattan than in all of sub-Saharan Africa.³⁰ Furthermore, approximately 30% of the world's telephone lines are located in the Americas, with the bulk of them in the United States and Canada.³¹ While most developed countries such as the United States, Canada, and Sweden average about 644 telephone mainlines per thousand people, developing countries such as Sierra Leone, Mozambique, and Nigeria average about 4 telephone mainlines per thousand people.³² Similarly, although the United States has over 975 Internet hosts per ten thousand people, most of the developing countries of Africa have less than .05 Internet hosts per ten thousand people.³³ New applicants for phone service often wait two to five years to obtain service.³⁴

In the total population of 750 million Africans, there are only about one million Internet users, with nearly 90% of them living in South Africa.³⁵ Without the inclusion of South Africa, the statistics are even more dismal. There is one Internet user for every five thousand people in Africa, compared with one user per every thirty-eight people worldwide and one in five people in the West.³⁶ In 1996, as little as 5% of government ministries in Kenya used

²⁹ Edward R. Leahy & Michael O'Brien, *Telecommunications Law and Technology in the Developing World*, 22 B.C. INT'L & COMP. L. REV. 1 (1999).

³⁰ Leahy & O'Brien, *supra* note 29, at 1.

³¹ *Brazil to Host Americas Telecom 2000*, ITU Press Release, at <http://www.itu.int/newsarchive/press/release/1998/98-28.html> (October 23, 1998).

³² 1999 WORLD DEVELOPMENT INDICATORS, *Power and Communications*, 306-08 (The World Bank, 1999). Telephone mainlines are defined as telephone lines connecting a customer's equipment to the public switched telephone network. *Id.* at 309.

³³ 1999 WORLD DEVELOPMENT INDICATORS, *The Information Age*, 310-12 (The World Bank, 1999). Internet hosts are defined as computers connected directly to the worldwide network. *Id.* Canada has over 335 Internet hosts per 10,000 persons, while Sweden has over 429 Internet hosts for 10,000 persons. *Id.*

³⁴ Leahy & O'Brien, *supra* note 29, at 15.

³⁵ Andrea Useem, *Wiring African Universities Proves a Formidable Challenge*, THE CHRONICLE OF HIGHER EDUCATION, April 2, 1999, at A51.

³⁶ *Id.*

personal computers.³⁷ Even at African universities, where technology usage is most pronounced, most institutions are plagued by the absence of phones, electrical outlets, and an inadequate national infrastructure.³⁸ A survey by the Association of African Universities found that while 52 of the 232 academic and research institutions had full Internet connectivity, 180 others had “inadequate” access.³⁹ While most institutions have some e-mail services, “many are unable to provide meaningful Internet access.”⁴⁰ In addition, most African universities are “facing severe financial crises,” thus making it “impossible for many institutions to tap into the technological revolution.”⁴¹

The deepening global digital divide is an ominous development. In fact, the global digital divide is emerging as one of the premier issues on the global agenda with implications for world health, literacy, and commerce.⁴² The World Bank has identified the task of bridging the global digital divide as one of the core issues and strategic priorities on its twenty-first century agenda.⁴³ According to World Bank President James D. Wolfensohn, “[t]he digital divide is one of the greatest impediments to development, and it is growing exponentially.”⁴⁴

³⁷ Peter Mazikana, *Africa*, in *WORLD INFORMATION REPORT 1997/98*, 144, 153, (UNESCO Publishing 1997).

³⁸ See generally Useem, *supra* note 35.

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² See James D. Wolfensohn, *A Call to Action in a Global Economy*, at <http://www.worldbank.org/ba/news/2000/pr-apr0-01.htm> (last visited Sept. 20, 2000) (calling the digital divide “one of the most pressing issues in development today”).

⁴³ See *Education For All*, World Bank Group, Fact Sheets, at <http://www.worldbank.org/html/extdr/pb/pbeduc.htm> (updated Apr. 2000) [hereinafter *Education for All*] (noting that the World Bank’s agenda going forward involves placing “human development on the global agenda” through (1) “putting education at the heart of development;” (2) “setting up purposeful partnerships;” (3) reducing poverty by, inter alia, securing debt relief, and; (4) leveraging strong partnerships on core topics such as “improving girls education, providing basic education for the poorest, addressing the spread of HIV/AIDS, and bridging the digital divide”).

⁴⁴ *World Bank and Softbank to Invest in Internet Enterprises for the Developing World*, at <http://www.worldbank.org/> (Feb. 12, 2000) [hereinafter *World Bank Group and Softbank*].

Given the fast pace of technological change and the impact of new information technologies on economic and social well-being, "the prospect that some will be left behind in the information age can have serious repercussions."⁴⁵ In the United States, the NTIA has determined that the widening digital divide imperils the health of communities, the development of a skilled workforce, and the nation's economic welfare.⁴⁶

While the concept of a digital divide has recently emerged as a key concern of national and international⁴⁷ policymakers, its lineage may be traced back to the North-South structural information and communication concerns postulated by the developing countries. In fact, the new debate over the global digital divide resembles the North-South global telecommunications debates of the 1970s and 1980s.⁴⁸ A 1983 article co-written by Congressman Dante Fascell concerning the NWICO movement appears remarkably prescient and pertinent to today's discussions about the global digital gap.⁴⁹

The communications and information revolution is exacerbating the development gap between the rich and poor nations of the world. Developing nations' attempts to redress the imbalance through support for a New World Information Order and a New International Economic Order are evidence of this gap. The information age promises to solve many of the problems of the

⁴⁵ *Digital Divide Summit*, *supra* note 17. While most of the participants at the U.S. Digital Divide Summit were naturally concentrating on the digital divide in the United States, a few such as Paul Ulrich of Toffler Associates were interested in the experience of the developing countries. *Id.* LDCs were "concerned that technological and policy advances elsewhere might leave them behind." *Id.*

⁴⁶ *Id.* The Digital Divide Summit was sponsored by the U.S. Department of Commerce in December 1999. *Id.* The objective was to explain the nature, causes, and implications of the widening chasm between tech-halves and have-nots, as well as to identify appropriate policy responses. *Id.*

⁴⁷ See Leahy & O'Brien *supra* note 29 (noting that the World Bank has identified bridging the global digital divide as a key priority for going forward).

⁴⁸ See *infra* notes 52-63, 68-144 and accompanying text (discussing the New World International and Communications Order (NWICO)).

⁴⁹ Dante B. Fascell & Virginia M. Schlundt, *Perspective: United States International Communications and Information Policy: A Crisis in the Making*, 5 J. INT'L BUS. 486, 502 (1983). In 1983, Fascell was the Chairman of the House Committee on Foreign Affairs.

developing world, but also threatens to increase the tensions between the industrialized and developing nations Ways must be found to lessen these tensions and encourage the developing world's participation in this new age.⁵⁰

In the 1970s, the Third World's response to the growing North-South gap was to lash out in revolutionary fervor, demanding immediate restructuring of the international economic, information, and communications orders.⁵¹

B. A Brief Note on the New Order Approaches

The creation of a new information order rejected certain aspects of the existing international economic and legal orders. Consequently, a discussion of the NWICO would be incomplete without a brief comment on the Third World's basic agenda in the 1970s and 1980s. The agenda included fundamental restructuring of the international economic and legal systems consistent with the LDCs' notions of equity and justice.⁵²

The New World Information and Communications Order was an extension of the Third World's New International Economic Order (NIEO) agenda⁵³ that reached a peak with the passage of the United Nations Charter of Economic Rights and Duties of States.⁵⁴ The NWICO was part of a general effort to transfer power and resources from North to South by the "codification of Third World principles into international orders" such as NIEO, the New Scientific and Technological Order (NSTO), and the New World Cultural Order (NWCO).⁵⁵ The United States generally opposed the restructuring schemes and redistributive implications of these "new order" approaches.⁵⁶

⁵⁰ *Id.*

⁵¹ See generally *infra* notes 52-63 and accompanying text.

⁵² *Id.*

⁵³ UN Declaration on Establishment of NIEO. G.A. Res. 3201, U.N. GAOR, S-VI, Supp. No. 1, at 3, U.N. Doc.A/9559 (1974), *reprinted in* 13 I.L.M. 715 (1974).

⁵⁴ G.A. Res. 3281, U.N. GAOR, 29th Sess., Supp. No. 31, at 50, U.N. Doc.A/9631 (1975), *reprinted in* 14 I.L.M. 251 (1975).

⁵⁵ See RICHARD L. JACKSON, *THE NON-ALIGNED, THE UN, AND THE SUPERPOWERS* 178 (1983).

⁵⁶ *Id.* The United States opposed General Assembly Resolution 3281. *Id.*

The success of oil-producing countries in quadrupling the price of oil encouraged many leaders in developing countries to attempt to employ similar "forms of commodity power as leverage against what they regarded as the oppressive global liberalism of the industrialized West."⁵⁷ These countries hoped to "flex their muscles" by using their voting power in the United Nations General Assembly, the United Nations Conference on Trade and Development (UNCTAD), the International Monetary Fund (IMF), and the World Bank.⁵⁸ Their principal goals were to accelerate the pace of their own development and to "shift the pattern of income distribution—less for the rich and more for the poor nations."⁵⁹ While these states had some "divergences of interest," there was, for the most part, "widespread agreement in what was termed the New International Economic Order (NIEO)."⁶⁰ Regarding the focus of this article, the South insisted that the North must "ensure a quickened rate of technology transfer (for most Third World countries were afraid that the technology gap would continue to widen rather than narrow.)"⁶¹

Stephen Krasner has described the strategy employed in the Third World's approach as "meta-power behaviour, which aims at restructuring international regimes—altering institutions, rules, principles, values and norms in favor of the weaker, poorer, more

⁵⁷ JAMES E. DOUGHERTY AND ROBERT L. PFALTZGRAFF, *CONTENDING THEORIES OF INTERNATIONAL RELATIONS* 243 (4th ed.1997).

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ *Id.* Other objectives were to: "(b) improve the terms of trade for the South and expand trade preferences for its manufactures; (c) multilateralize foreign economic development assistance to insulate it against the attachment of political strings that often accompanied bilateral transactions; (d) negotiate with UNCTAD and other Third World groups commodity-price-stabilization agreements to protect primary products exported to the North against wide price fluctuations in the world market; (e) impose more stringent controls on First World capital investment abroad and on the operations of the MNCs; (f) grant relief by rescheduling or canceling Third World to Northern banks and other North-dominated international financial institutions; (g) accept price indexation, under which the prices of Third World primary products exported to the First World would be linked to prices manufactured goods imported from it; and (h) accept a new international legal regime for the high seas" *Id.*

vulnerable states.”⁶² As a result, the North-South debate over these new order approaches reflects the power struggle between states described by traditional realists.⁶³

This article suggests alternatives to the NIEO approach because the strategy has been both unworkable and unrealistic. While the North may have been “willing to hear it discussed,” it flatly refused to meaningfully participate in the negotiation of this new order.⁶⁴ Recognizing the stakes, Northern policymakers were determined to deny the South victory in this diplomatic enactment of the classic struggle for power in realist lore. Although the North was prepared to make some reasonable accommodations, it was reluctant to allow the weaker states of the South to engineer massive resource, wealth, or power reallocations through the use of norms.⁶⁵ As Krasner observes, the Third World lacked the “material-power capabilities” required to achieve their grandiose ambitions, to wit, effecting “fundamental changes in the way the international economy operates.”⁶⁶ Consequently, the South made “no progress” with the NIEO strategy, and any changes that have occurred in the international economic system have been “far from fundamental” and generally not as a result of the Third World’s “political rhetoric” or “voting power” in international organizations.⁶⁷

This article is not about the normative rightness or wrongness of the new order demands. In fact, there were several legitimate new order aspirations, but that matter is irrelevant here. Instead, the argument is a much narrower one: UNESCO’s new order approach to addressing the perceived inequities in the structure and distribution of global telecommunications and information

⁶² *Id.* at 244.

⁶³ See, e.g., HANS MORGENTHAU, *POLITICS AMONG NATIONS* 14 (5th ed. 1978) (noting that international politics, like all politics, is a struggle for power). The realist thesis, or at least a modified realist approach, tends to explain much about the North-South tangles of the 1970s and 1980s. *Id.* Still, it must be acknowledged that realist and neo-realist theories only describe the world as it was and perhaps the world as it is, but not the world as it ought to be. *Id.*

⁶⁴ DOUGHERTY AND PFALTZGRAFF, *supra* note 57, at 244.

⁶⁵ *Id.*

⁶⁶ *Id.* at 244-45.

⁶⁷ *Id.*

resources is an inappropriate model for bridging today's digital divide. In a uni-polar world, where the United States, as the sole superpower, has a tremendous capacity to act as a key strategic partner in facilitating global access to telecom, anti-market new order approaches that could precipitate U.S. hostility or defection are ill-advised and counter-productive.

II. Access, UNESCO, and The New World Information & Communications Order

This section contends that the NWICO-style, normative frameworks for narrowing the North-South telecom divide were ineffective because they alienated key segments of the international community, attempted to restrict free enterprise, and appeared to disregard settled rules of international law.⁶⁸ Contrary to the aspirations of the LDCs, the negotiations in UNESCO did little to narrow the information and communications gaps between the North and South. In a perverse twist of fate, the new order approach may have actually widened the gap, to the extent that it prompted the defection or alienation of critical actors in the international system and further heightened North-South mistrust. Below, the article examines the attempts to achieve access and to narrow the information and technology gap through UNESCO and its untoward consequences.⁶⁹

With respect to closing the communications chasm through international legislation, the focus was on information flows, as well as access to information technologies.⁷⁰ The developing countries were concerned by statistics showing that about 80% of the world's news flow came from five transnational news agencies in the developed world—the Associated Press (AP), United Press International (UPI), Reuters, Agence-France-Presse (AFP), and Tass (the ex-Soviet news agency).⁷¹ Third World countries

⁶⁸ See *infra* notes 70-144 and accompanying text.

⁶⁹ See *infra* notes 75-110 and accompanying text.

⁷⁰ *Id.*

⁷¹ Jonathan Graubart, Comment, *What's News: A Progressive Framework for Evaluating the International Debate Over the News*, 77 CAL. L. REV. 629, 635 (1989). See generally CRISIS IN INTERNATIONAL NEWS: POLICIES AND PROSPECTS (Jim Richstad & Michael H. Anderson eds., 1981). Although the Soviet news agency was, in theory, subject to the same criticisms directed against the North, NWICO proponents for the

depended on the Western new agencies for information about the rest of the world, and Third World news agencies that collected the pooled resources of several developing nations had to rely on Western news services for their international news.⁷² Third World advocates for change complained that since Western agencies concentrated on the developed world, the people of the Third World lacked access to news on events relevant to their lives, problems, and experiences, including the experiences of similar developing nations.⁷³ In the 1970s and 1980s, the LDCs attempted to increase access to information and achieve equitable allocations of spectrum and other information resources by instituting a New World Information and Communications Order (NWICO).⁷⁴

As early as the late 1940s, many in the Soviet bloc had expressed concerns about the domination of international media by Western news agencies.⁷⁵ Thus, Yugoslavia, an ally of the Soviets, proposed a United Nations General Assembly resolution asking states "to take urgent legislative and other measures to restrict the publication of false and tendentious reports calculated to aggravate relations between nations, provoke conflicts and incite war."⁷⁶ In 1972 the Soviet Union, through the Byelorussian delegate, formally introduced the concept of "media control" in UNESCO, proposing a so-called "Draft Declaration on the Use of Mass Media."⁷⁷

most part reserved their harshest words for Western domination. *Id.*

⁷² Graubart, *supra* note 71, at 636. See generally ACHAL MEHRA, *FREE FLOW OF INFORMATION* 51-70 (1986).

⁷³ Graubart, *supra* note 71, at 636.

⁷⁴ See generally *New World and Communications Order Focus of Work of Committee on Information in 1985*, UN CHRONICLE, VOL. XXII No. 8 (Sept. 1985).

⁷⁵ Graubart, *supra* note 71, at 629, 631. According to Soviet Ambassador to the United Nations, Andrei Gromyko, the free-flow principle:

concealed, beneath flowery phrases concerning democracy, the interests of the bankers and industrialists for whom the Wall Street exchange was the highest expression of democracy, and it described in detail how information media and the Press should be used to render effective service to the newspaper owners and the big publishing houses which exercised administrative control over all information media in the various countries.

Id. at 631-32.

⁷⁶ *Id.* at 632.

⁷⁷ Michael J. Farley, Comment, *Conflicts Over Government Control of*

Nevertheless, it was not until the early 1970s that the NWICO concept was "shaped" by Third World representatives such as Muhammad Masmoudi of Tunisia who, building on the Soviet proposal, called for the restructuring of global communications policies.⁷⁸ The call for a new international information order was strongly endorsed by the developing states individually and collectively through lobbies such as the Group of 77 and the Non-Aligned Movement.⁷⁹

Meanwhile, the proposals for a new order generated intense controversy, and UNESCO was unable to reach consensus on the matter in its 1972 meeting and at two subsequent meetings.⁸⁰

Information—The United States and UNESCO, 59 TUL. L. REV. 1071, 1074 (1985).

⁷⁸ See Jackson, *supra* note 55, at 177. Mr. Masmoudi, then Tunisia's representative to the UNESCO was "one of the most outspoken proponents of NWICO." Farley, *supra* note 77, at 1074 n.13.

⁷⁹ See Jackson, *supra* note 55, at 177. The Non-Aligned Movement (NAM) had its origins at the Belgrade summit of twenty-five states in September 1961 sponsored by the late Yugoslav President Tito. *Id.* at 4. The unifying factor was ostensibly the development and articulation of a foreign policy "independent of the superpowers or associated blocs." *Id.* Nevertheless, many claimed that most declarations of the organization did not actually reflect the vaunted theoretical balance as the Non-Aligned movement often singled out the United States and its allies for "criticism" while referring to the "Soviet Union in indirect terms and then only rarely." *Id.* at 3. By its summit of 1983 in New Delhi, NAM's membership had risen to ninety-nine states and two liberation movements. *Id.* While 80% of NAM members are also members of the 125-member G-77, the two groups have some key differences. *Id.* The G-77, initially formed to represent developing countries at the 1964 United Nations Conference on Trade and Development (UNCTAD), focuses entirely on economic issues and acts as a recognized negotiating body in the North-South dialogue. *Id.* Although NAM is involved in some economic issues, it has a broader focus, acting as a coordinator and lobby on behalf of its members on a wide range of political, social, and economic matters. *Id.* Meanwhile, the Third World is a looser concept, not an organized institution or lobby, and it primarily refers to the economically and technologically "underdeveloped" states (mostly in the Southern hemisphere) that comprise the majority of the United Nations, NAM, and the G-77. *Id.* In general, the states of the South "shared certain common tendencies and common attitudes and resentments . . . toward certain problems of international law, resulting more or less from their common experiences under colonial bondage, their struggle for independence, and their present underdeveloped nature." RAM PRAKASH ANAND, *NEW STATES AND INTERNATIONAL LAW* 3-4 (1972).

⁸⁰ Farley, *supra* note 77, at 1074. In fact, this issue remained a "hot potato" at the 1974 and 1976 UNESCO meetings. See *id.* At the 1976 meeting, UNESCO agreed only to postpone its consideration of the controversial Soviet Draft Declaration until the 1978 meeting. *Id.*

Nevertheless, in 1972 UNESCO passed a Soviet-sponsored resolution asking the Director General, Amadou-Mahtar M'Bow, to review the alleged communications imbalances and related matters.⁸¹ The Director General was instructed to prepare a draft declaration on the "fundamental principles governing the use of the mass information media with a view to strengthening peace and international understanding and combating war propaganda, racialism, and apartheid."⁸²

At the request of the developing countries, UNESCO organized the San Jose Conference on international communications policies in 1976; the event demonstrated the widening North-South gulf on the matter.⁸³ A majority of Third World countries supported a fundamental structural change in global communications, while the United States and other Western countries wanted to preserve the status quo.⁸⁴ Although Western diplomatic and media pressure moderated the tone of the final declaration,⁸⁵ the Conference's recommendations were a significant challenge to the free-flow doctrine.⁸⁶ In particular, the Conference appeared to challenge the "free flow" approach by calling for a "balanced flow" of information, a "right to communicate" at national and international levels, and a clarification of the duties and responsibilities of journalists.⁸⁷

In 1976, Director General M'Bow established the International Commission for the Study of Communication Problems, dubbed the MacBride Commission after its chairman, Sean MacBride.⁸⁸ The Commission was given a mandate to review global communications policies, and it was hoped that its report would defuse some of the controversy produced by the Soviet draft

⁸¹ Graubart, *supra* note 71, at 633.

⁸² *Id.*

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Id.* The "negative coverage" of these proposals was typical of the Western media's reaction to the NWICO throughout the next two decades. *See id.* at 633; *see also* Farley, *supra* note 77, at 1075 (citing *A Simple No to UNESCO*, N.Y. TIMES, Nov. 8, 1978, at A26).

⁸⁶ Graubart, *supra* note 71, at 633.

⁸⁷ *Id.*

⁸⁸ *Id.* at 634.

declaration.⁸⁹ It was also hoped that the report would provide a comprehensive and independent assessment of both the problems and the future of the role of communications.⁹⁰

The MacBride Commission's interim report of 1978 echoed the views of the developing countries regarding global communications policies.⁹¹ The Commission concluded that the free-flow doctrine in effect served the interests of the Western elite, consisting primarily of Western transnational news agencies and certain large multinational corporations with global advertising and distribution channels or outlets.⁹² Meanwhile, UNESCO kept the issue alive by adopting a proposal regarding the contribution of mass media at its 1978 General Conference.⁹³ While this proposal called for a free and balanced flow of information, "the West was pleased that there were no explicit references to state control of information."⁹⁴ The final MacBride Commission Report, released just before the 1980 UNESCO General Conference in Belgrade, contained over eighty recommendations that laid the groundwork for establishing the New World Information and Communications Order.⁹⁵ While the report affirmed principles of free access to information, free flow of information, and diversity of information, several of its proposals appeared to endorse strict government regulation of advertising, content, and media influence.⁹⁶ In the same year,

⁸⁹ Farley, *supra* note 77, at 1075.

⁹⁰ *Id.*; see also Jane Bortnick, *International Information Flow: The Developing World Perspective*, 14 CORNELL INT'L L.J. 333, 346 (1981).

⁹¹ Graubart, *supra* note 71, at 634.

⁹² *Id.*

⁹³ *Id.* The proposal was entitled "Declaration on Fundamental Principles Concerning the Contribution of Mass Media to Strengthening Peace and International Understanding, to the Promotion of Human Rights, and to Countering Racism, Apartheid and Incitement to War." *Id.*; see also Gen. Conf. Res. 4/9, 3/2, UNESCO, 20th Sess. (1954), reprinted in ANN. REV. U.N. AFF. 238 (1978). UN General Assembly resolutions 33/115a and 33/115b echoed the letter and spirit of the new communications order movement. See Caryn L. Finkle, *Nestle, Infant Formula, and Excuses: The Regulation of Commercial Advertising in Developing Nations*, 14 J. INT'L L. & BUS. 602 (1994).

⁹⁴ Farley, *supra* note 77, at 1075.

⁹⁵ *Id.* at 1076.

⁹⁶ Farley, *supra* note 77, at 1074-76; see also Graubart, *supra* note 71, at 634.

UNESCO also established the International Programme for Development of Communication (IPDC) to focus on technical assistance to LDCs, specifically on improving the communication infrastructures of developing countries.⁹⁷

The NWICO, as it emerged after Belgrade, was “not a particular declaration or resolution,” but was one of several labels given to the international movement to restructure the flow of and access to information.⁹⁸ In addition, the recommendations of the MacBride Report were elaborated upon by several other conferences and declarations of the G-77, UNESCO, and the United Nations General Assembly.⁹⁹ For example, in a resolution adopted at the fourth meeting of the Inter-Governmental Coordinating Council for Information on Non-Aligned Countries in Baghdad in 1980, participants stated that the NWICO is based on, *inter alia*:

(b) the right of every nation to develop its own independent information system and to protect its national sovereignty and cultural identity, in particular by regulating the activities of the transnational corporations; (c) the right of people and individuals to acquire an objective picture of reality by means of accurate and comprehensive information as well as to express themselves freely through various media of culture and communication; (d) the right of every nation to use its means of information to make known worldwide its interests, its aspirations and its political, moral and cultural values; (e) the right of every nation to participate, on the governmental and nongovernmental level, in the international exchange of information under favourable conditions in a sense of equality, justice and mutual advantage.¹⁰⁰

The 1980 UNESCO Conference authorized several task forces to implement the recommendations of the conference, including

⁹⁷ Graubart, *supra* note 71, at 634. This move was viewed as a “concession” to the West, which was more inclined to provide technical assistance rather than address the “normative challenges” of the NWICO. *Id.*

⁹⁸ *Id.* at 630 n.5.

⁹⁹ See generally Farley, *supra* note 77, at 1077-78.

¹⁰⁰ Gaubart, *supra* note 71, at 639 (citing K. NORDENSTRENG, THE MASS MEDIA DECLARATION OF UNESCO 69-70 (1984)).

the development of a journalistic code of ethics.¹⁰¹ A draft proposal by a French political scientist for a Commission for the Protection of Journalists included controversial provisions such as identification cards that could be withdrawn if journalists breached "generally accepted codes of journalistic ethics."¹⁰² The new order recommendations were purportedly designed to assure that Western journalists would focus on "process" and not merely on sensational events, as well as to bring about more balanced reporting of the news.¹⁰³

In addition, the UNESCO General Conference adopted "consensus resolutions" designed to advance the agenda of the new order.¹⁰⁴ For example, Resolution 4/19 states that the new order ought to be based on, among other considerations, "the elimination of the imbalances and the inequities which characterize the present situation."¹⁰⁵ In 1985, the UNESCO Committee on Information adopted seventy of the recommendations dealing with the establishment of the new order and called for the General Assembly to adopt resolutions:

based on the free circulation and wider and better balanced dissemination of information, guaranteeing the diversity of sources of information and free access to information. The new order would also be based on the urgent need to change the dependent status of developing countries in the information and communication field¹⁰⁶

With regard to fostering access and equity, proponents of the new order demanded that the North make significant financial and

¹⁰¹ Farley, *supra* note 77, at 1077.

¹⁰² *Id.* at 1077.

¹⁰³ See generally Graubart, *supra* note 71. These new standards and the attempt to mandate an ethic of journalistic responsibility (as a corollary of journalistic freedom) were perceived as a threat to the free flow of news and a threat to the fundamental freedom of speech. See *infra* notes 111-44 for a discussion regarding the United States' response to the NWICO recommendations.

¹⁰⁴ See generally UN CHRONICLE, *supra* note 74.

¹⁰⁵ *Id.* at 34. In Resolution 3.1, special attention was drawn to facilitating an in-depth analysis of the new order, "seen as an evolving and continuous process, so as to strengthen the bases upon which such an order conducive to free flow and wider and better balanced dissemination of information might be established." *Id.*

¹⁰⁶ *Id.*

technical assistance to the South, including the establishment of indigenous communications infrastructures in the developing world.¹⁰⁷ In fact, concern that the North would attach strings to this aid led certain proponents of the new order to request that the assistance be distributed through UN organs such as UNESCO.¹⁰⁸ It was hoped that these international organizations would offer assistance in areas such as “technology transfers, aid for higher education in communications science within Third World countries, tariff reductions for communications flowing from developing countries,” and research and development of new, inexpensive, and more user-friendly technology.¹⁰⁹ To overcome obstacles regarding access to communications channels, the South demanded significantly reduced postal rates for newspapers and other publications from developing countries, increased access to satellite services, and more equitable or favorable spectrum reallocations.¹¹⁰

III. The U.S. Response to the NWICO

The United States vigorously opposed the NWICO, perceiving it as an unwarranted attempt to limit the free flow of information and regulate the workings of the free market.¹¹¹ The United States objected to the MacBride Report’s apparent bias against the private sector’s involvement in communications and its recommendations regarding balanced and responsible journalism.¹¹² In many aspects, the New Order recommendations

¹⁰⁷ Graubart, *supra* note 71, at 641 (citing Mustapha Masmoudi, *The New World Information Order*, in *CRISIS IN INTERNATIONAL NEWS: POLICIES AND PROSPECTS* 79 (Jim Richstad and Michael H. Anderson eds., 1981)).

¹⁰⁸ *Id.*

¹⁰⁹ *Id.* at 641-42.

¹¹⁰ *Id.* at 642 (citing Mustapha Masmoudi, *The New World Information Order*, in *CRISIS IN INTERNATIONAL NEWS: POLICIES AND PROSPECTS* 84-86 (Jim Richstad & Michael H. Anderson eds., 1981)). For articles discussing the South’s demands for equitable access to spectra, see K. Baca, *Property Rights in Outer Space*, 58 J. AIR L. & COM. 1041 (1993); J. Thompson, Comment, *Space for Rent: The International Telecommunications Union, Space Law and Orbit/Spectrum Leasing*, 62 J. AIR L. COM. 279 (1996); and C. Biblowit, *International Law and the Allocation of Property Rights in Common Resources*, 4 N.Y. INT’L L. REV. 77 (1991).

¹¹¹ Farley, *supra* note 77, at 1074.

¹¹² *Id.* at 1076.

conflicted with the goals of U.S. telecommunications policy.¹¹³

In 1980, the Department of State prepared an official statement on U.S. telecommunications policy for Congress.¹¹⁴ The statement indicated that U.S. policy was designed to assure or achieve goals such as non-discriminatory access to low-cost, efficient information systems and non-discriminatory commercial opportunity for U.S. firms.¹¹⁵ While the statement indicated that one of the policy objectives was to "respond to international concern about U.S. domination of international computer and data processing, and the reliability of access to U.S. [data]bases,"¹¹⁶ there were no concessions to any of the NWICO agenda items.¹¹⁷ At the same time, the United States was also concerned about protecting its "dominance" in the information economy.¹¹⁸ In 1982, James Buckley, Under Secretary of State for Security, Assistance, Science and Technology during the Reagan Administration, testified on the United States' "concern" regarding UNESCO's MacBride Commission report on the New World Information and Communications Order.¹¹⁹ Secretary Buckley stated that, for the United States, "communications and information technologies represent a leading edge of U.S. strength. Policy and practice in international communications and information activities must actively enhance the overall well-being of the United States, the

¹¹³ *Id.* at 1076-77.

¹¹⁴ Ronald W. Brown, *Perspective: Economic and Trade Related Aspects of Transborder Data Flow: Elements of a Code for Transnational Commerce*, 6 J. INT'L L. BUS. 1, 19 (1984).

¹¹⁵ *Id.* Other goals included developing software and encryption standards, protecting privacy, securing general access to scientific databases, securing U.S. access to foreign advances in new technologies, encouraging foreign governments to limit their privacy laws to the coverage of natural persons, and providing a framework for government to government exchange of data with due regard to national security and personal privacy. *Id.* (citing *Long-Range Goals in International Telecommunications and Information: An Outline for United States Policy: Sen. Comm. On Commerce, Science and Transportation*, 98th Cong. (1983)).

¹¹⁶ *Id.* at 19.

¹¹⁷ Compare Brown, *supra* note 114, at 19, with UN CHRONICLE, *supra* note 74 (stating the NWICO agenda items).

¹¹⁸ Fred H. Cate, *The Future of Communications Policymaking*, 3 WM. & MARY BILL OF RTS. J. 1, 10 (1994).

¹¹⁹ *Id.*

lives of its people, and its system of government.”¹²⁰ Later in December 1983, Ambassador Diana L. Dougan, United States Coordinator for International Communications and Information Policy, articulated U.S. policy on global information flows in an address before the Organization for Economic Cooperation and Development (OECD).¹²¹ Ambassador Dougan affirmed the U.S. policy of free flow of information, stating: “We consider the free flow of international information as an extension of our domestic democratic traditions. Our laws and regulations are designed to encourage maximum access to information and minimize its abuse.”¹²² While recognizing that “‘freedom of information’ is subject to widely varying definitions, and that such freedom is not absolute,” the U.S. representative made it clear that “the burden of proof is on those who claim a restriction is necessary.”¹²³ In an apparent response to NWICO recommendations, the U.S. representative stated: “We cannot accept such broad generalizations as the ‘protection of cultural integrity’ to be a sufficient justification for information control, particularly as these are too often only a guise for economic protectionism or censorship of the press.”¹²⁴

The U.S. business sector also had interests that were at odds with the proposed New World Information Order. For example, the newspaper industry perceived certain NWICO initiatives as attempts at regulating the content of lucrative commercial advertising.¹²⁵ It was estimated that the newspaper industry received 60 to 80% of its revenues from advertising, and reduction

¹²⁰ *Id.* (citing James L. Buckley, *International Communications and Information Objectives*, DEP’T. ST. BULL. 79 (June 1982)). Cate observed that U.S. policymakers also used several trade statutes to maintain the United States’ “leading edge,” to wit, the Omnibus Trade and Competition Act of 1988, 19 U.S.C. § 2411 (1988); The Telecommunications Trade Act of 1988, 19 U.S.C. §§ 3101-3111 (1988); the Export Administration Act of 1979, 50 U.S.C. App. §§ 2401-2419 (Supp. III 1991); and the International Security Assistance and Arms Export Control Act of 1976, 22 U.S.C. § 2751 (1988 & Supp. IV 1992).

¹²¹ Brown, *supra* note 114, at 20.

¹²² *Id.*

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ See Finkle, *supra* note 93, at 611.

of these revenues would necessarily diminish the resources available to cover the news cost-effectively.¹²⁶ Furthermore, the perceived attempts to restrict press freedom generated a negative reaction to the NWICO in the Western media, thus sparking a spate of "negative coverage" of the NWICO during the entire period.¹²⁷ For example, with regard to the 1978 Declaration, the *New York Times* stated: "If it turns out to be impossible to reject this attempt to tamper with our basic principles, there is always the possibility of rejecting UNESCO itself."¹²⁸ In addition, at the height of the NWICO movement in the early 1980s, the trade in information-processing products and services and the related employment was booming.¹²⁹ A 1982 report estimated that the U.S. domestic market for communications and information products was \$73 billion in 1981, with revenues projected as high as \$150 billion in 1986 and \$230 billion in 1991.¹³⁰ The U.S. share of this robust trade in communications and information products (\$36 billion) was projected to experience as much as 10% growth by the end of the 1980s.¹³¹

Given these interests, the National Association of Manufacturers (NAM) made the following findings: U.S. suppliers and users of telecommunications equipment were part of a "community of interest" that "encourages support for the freest possible trade in information products and services, while also allowing for relevant national security consideration."¹³² NAM also found that trade in telecommunications equipment was "a critical part of the U.S. effort to maintain its international competitiveness in advanced technology" and that there was "much evidence" that U.S. competitiveness had worsened.¹³³ Finally, NAM concluded

¹²⁶ *Id.* (citing PETER J.S. DUNNETT, *THE WORLD NEWSPAPER INDUSTRY* 25 (1988)).

¹²⁷ Graubart, *supra* note 71, at 633.

¹²⁸ Farley, *supra* note 77, at 1075 (citing *A Simple No to UNESCO*, N.Y. TIMES, Nov. 8, 1978, at A26).

¹²⁹ Fascell & Schlundt, *supra* note 49, at 498.

¹³⁰ *Id.* (citing *World Market for Information Processing Products to Double in 5 Years*, INTERTRADE 1, 1 (May 15, 1982)).

¹³¹ *Id.*

¹³² Brown, *supra* note 114, at 29-30.

¹³³ *Id.* at 30.

that several foreign governments were “using restrictive measures related to international information flows as *de facto* trade barriers.”¹³⁴

In May 1981, media leaders from the United States and twenty other Western nations meeting in the French Alps produced the Declaration of Talloires that denounced many of the recommendations of the MacBride Report, particularly the licensing proposal.¹³⁵ The Declaration called on UNESCO to stop its efforts to regulate information flow and urged the world body to take steps to promote freedom of information.¹³⁶ President Reagan included the Declaration in a 1981 letter to the House of Representatives, wherein he recommended that the House pass an amendment that would require the United States to withhold its UNESCO contributions “if that organization implements any policy or procedure the effect of which is to license journalists or their publications, to censor or otherwise restrict the free flow of information within or among countries, or to impose mandatory codes of journalistic practice or ethics.”¹³⁷

By 1983, the UNESCO General Conference was under severe pressure from the Reagan Administration to change its stance with regard to the New World Information and Communications Order.¹³⁸ Mr. Gregory J. Newell, the U.S. Assistant Secretary of State, admonished UNESCO representatives from about 140 countries that the United States would withhold funds and withdraw from the world body if the conference attempted to create or formalize the New World Information and Communications Order.¹³⁹

In the face of this threat, the General Conference approved a two-year study of communications problems and retreated somewhat from its “radical” stance.¹⁴⁰ Nevertheless, the Reagan

¹³⁴ *Id.* (citing *National Association of Manufacturers*, ENTERPRISE, Mar. 23, 1983, at 24).

¹³⁵ Farley, *supra* note 77, at 1077.

¹³⁶ *Id.* at 1077-78.

¹³⁷ *Id.* at 1078 n.44.

¹³⁸ *Id.* at 1078.

¹³⁹ *Id.*

¹⁴⁰ *Id.*

Administration was unimpressed by UNESCO's attempts at moderating its positions on censorship.¹⁴¹ Shortly after the December 1983 General Conference, the United States formally announced its intention to withdraw from UNESCO if significant changes were not made.¹⁴² At the end of 1984, the United States formally withdrew from UNESCO, citing among its reasons, the politicization of the organization.¹⁴³

In sum, UNESCO's new order approach to addressing the perceived inequities in the structure and distribution of global telecommunications and information resources turned out to be counter-productive. Given its technological and economic predominance, the United States is an indispensable actor, at least with regard to the formation of a functioning global telecommunications regime. By precipitating U.S. defection, the new order proponents lost any chance of achieving any of their legitimate objectives with regard to access. The next section of this article will discuss emerging Low Earth Orbit (LEO) satellite technologies, their potential to narrow the digital gap, and key recommendations to facilitate the process.¹⁴⁴

IV. New Approaches: LEOs & The Wireless Internet Revolution

This section examines how the advent of LEO-satellite-enabled wireless web technologies can contribute to narrowing the global digital divide. The recommendations made for bridging the global digital divide are tempered by a pragmatic recognition of the limits of international law, yet hopeful about the new world of possibilities ushered in by the wireless Internet Age.¹⁴⁵

According to the Federal Communications Commission (FCC), a LEO satellite system is any system that does not operate in the geostationary orbit, such as those systems operating in

¹⁴¹ See *id.* at 1079.

¹⁴² *Id.*

¹⁴³ *Id.* Several other Western nations also threatened withdrawal unless there was significant reform in UNESCO. *Id.* at 1080 n.53 (citing N.Y. TIMES, Nov. 23, 1984, at A1; N.Y. TIMES, Dec. 28, 1984, at A3; N.Y. TIMES, Dec. 22, 1984, at A3).

¹⁴⁴ See *infra* notes 146-91 and accompanying text.

¹⁴⁵ *Id.*

lower-altitude orbits, medium-altitude orbits, and high elliptical orbits.¹⁴⁶ LEOs, sometimes referred to as mobile satellite systems (MSS), and global mobile personal communications by satellite (GMPCS), are capable of providing global coverage.¹⁴⁷ Whereas a “Little LEO” system “is a small non-geostationary satellite which operates in Low Earth Orbit, providing mainly mobile data services,” a “Big LEO” system “is a larger non-geostationary satellite which operates in Low Earth Orbit, . . . providing mobile telephony services.”¹⁴⁸ Unlike geostationary orbit (GSO) satellites that operate at a fixed point about 36,000 kilometers above the earth, LEO satellites orbit at a distance of a mere 500 to 1,500 kilometers above the earth’s surface—an altitude that enables them to eliminate signal delay which is a major drawback of GSO satellites.¹⁴⁹ LEO systems can “provide global coverage by employing multiple satellites which orbit the earth at a relatively low altitude.”¹⁵⁰ In addition, LEO satellites can provide planet-wide coverage by routing signals through ground stations or by using intersatellite linking to pass signals from satellite to satellite in order to maintain constant connection.¹⁵¹ LEO systems have three basic components: (1) mobile terminals; (2) LEO satellites; and (3) terrestrial gateways and earth stations.¹⁵² The mobile

¹⁴⁶ Mark Nogueira, Comment, *The Benefits of Low-Earth Orbiting Satellite Technology for the International Community: Can the Potential be Realized?* 5 IND. J. GLOBAL LEG. STUD. 739, 739 n.1 (1998) (citing *In the Matter of Amendment of Section 2.106 of the Commission’s Rules to Allocate Spectrum to the Fixed-Satellite Service and the Mobil-Satellite Service for Low-Earth Orbit Satellites*, 6 F.C.C.R. 5932 (Oct. 18, 1991)). LEO technology is reportedly a by-product of the efforts to develop and deploy a “star wars” missile defense system. *Id.* at 739.

¹⁴⁷ *Id.*

¹⁴⁸ *Id.* (citing International Telecommunication Union, World Telecommunication Policy Forum, Fact Sheet, at <http://www.itu.int/pforum/fact-e.htm> (last visited Sept. 26, 2000)).

¹⁴⁹ *Id.* at 741-42.

¹⁵⁰ *Id.* at 739. While Globalstar uses forty-eight satellites, the now defunct Iridium system planned to use sixty-six satellites. *Id.* at 739 n.4 (citing International Telecommunication Union, World Telecommunication Policy Forum, Fact Sheet, at <http://www.itu.int/pforum/fact-e.htm> (last visited Sept. 26, 2000)).

¹⁵¹ *Id.* (citing Stephan Le Goueff, *Licensing Global Mobile Personal Communications by Satellite: The Quest for the Holy Grail?*, 22 ANNALS AIR & SPACE L. 417 (1997)).

¹⁵² *Id.* (citing Stephan Le Goueff, *Licensing Global Mobile Personal*

terminals may be transported almost anywhere on the planet and still retain communication with the LEO satellite in the closest orbit to the terminal.¹⁵³ When the signal is received by the satellite, it may either be transmitted to the nearest earth station, or it could be passed from satellite to satellite and transmitted to the earth station closest to the end user.¹⁵⁴ Subsequently, the signal is transmitted from the earth station to the gateway that interconnects the satellites to the public-switched telephone networks so the call can be completed to the end user.¹⁵⁵ The majority of LEO systems have regional gateways that serve several countries in a particular region.¹⁵⁶ Consequently, a gateway located in one country may perform the task of interconnecting the satellite signals to the national telephone networks of many countries.¹⁵⁷ Although the number of gateways used vary in each LEO system, all systems plan to make some use of regional gateways.¹⁵⁸

Little LEO systems, that is, narrow-band nongeostationary orbit (non-GSO) mobile satellite systems (MSS) below one gigahertz (GHz), are rapidly enabling the "worldwide development of mass markets in low-cost wireless data services."¹⁵⁹ Although the current "cost and lack of spectrum could be a major barrier to the development of the mobile multimedia market,"¹⁶⁰ the introduction of digital technology in broadcasting may lead to more efficient spectrum usage in the long term (ten to fifteen years).¹⁶¹ LEO systems are also "proving their capability to

Communications by Satellite: The Quest for the Holy Grail?, 22 ANNALS AIR & SPACE L. 417 (1997)).

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*

¹⁵⁸ *Id.*

¹⁵⁹ James I. Finley, *Information Management and e-Business with Little LEO Systems*, ITU NEWS, Special Ed. May 2000, at 35, 35.

¹⁶⁰ Josef F. Huber, *IMT-2000 Spectrum: Views from the UMTS Forum*, ITU NEWS, Special Ed. May 2000, at 8, 10.

¹⁶¹ Sharad Sadhu, *What is at Stake for Broadcasters?* ITU NEWS, Special Ed. May 2000, at 26, 30.

share frequencies with other users without interference.”¹⁶² “The low-Earth orbiting satellite constellation (multi-orbits and multi-satellites) allows for compact, low power user equipment and better global and national coverage over land and water.”¹⁶³

Forecasters predict a worldwide boom for new wireless technologies. It is “estimated that there are about 100 million mobile Internet users active in the market-place,”¹⁶⁴ and the UMTS Forum, an industry group representing the global mobile industry, estimates that by 2010 there will be about two billion mobile users worldwide.¹⁶⁵ Given the rapid rate of growth, additional spectrum allocations (for non-GSO MSS below one GHz for service links, and above one GHz for feeder-link operations)¹⁶⁶ should be one of the highest priorities for the 2003 World Radio Conference (WRC 2003).¹⁶⁷

Several companies are developing plans for operations over satellite and terrestrial facilities for a global wireless data and communications system. Final Analysis, a global telecom company, plans to launch a constellation of LEO satellites “designed to operate seamlessly with terrestrial networks to deliver the power of mobility and wireless Internet access to global mass markets.”¹⁶⁸ The proposed “FAISAT” system will

¹⁶² Finley, *supra* note 159, at 36.

¹⁶³ Arnold Ph. Djiwatampu, *Social Justice through Communications Access: A Little LEO Proposal*, ITU NEWS, Special Ed. May 2000, at 40, 40.

¹⁶⁴ Finley, *supra* note 159, at 35-36.

¹⁶⁵ Huber, *supra* note 160, at 8.

¹⁶⁶ Finley, *supra* note 159, at 36.

¹⁶⁷ Sadhu, *supra* note 161, at 31.

So far, WRCs have only allocated a small portion of spectrum to non-GSO MSS below 1 GHz. There has not been a global allocation to this industry since WARC-92. However, the technology has greatly advanced over these eight years, facilitating an important niche for Little LEO systems in e-commerce and Internet-related growth.

Finley, *supra* note 159, at 36. Prospective “Little LEO bands under study include those around 1.4 GHz (for feeder-link operations), 401-406 MHz (for service downlinks), and 450-460 MHz (for service uplinks).” Oleg Dorofeyev, *Paving the Way for Little LEO MSS: In Russia and the Other CIS Countries*, ITU NEWS, Special Ed. May 2000, at 37, 39.

¹⁶⁸ Nader Modanlo, *A Global Wireless Data System: Seamless Operations Over Satellite and Terrestrial Facilities*, ITU NEWS, Special Ed. May 2000, at 32, 32.

bring the Internet to hand-held mobile devices, provide ubiquitous coverage with networks on land and sea, and provide high-end narrowband wireless data.¹⁶⁹ LEO-enabled wireless file transfer services include wireless e-mail, wireless laptop file transfers, digitized voice mail, collection and distribution of business information, telemedicine¹⁷⁰ applications, distribution of distance education materials, and extension of basic government services to remote areas.¹⁷¹ Other applications include tracking and monitoring of capital assets, global positioning, and providing an effective means of marketing products and services from small enterprises in rural areas.¹⁷²

Some claim that wireless Internet technologies enabled by LEO satellites hold the promise of narrowing the global digital divide.¹⁷³ Nader Modanlo, Chairman and President of Final Analysis, maintains that “[a]ffordable wireless data services globally distributed to mobile, portable and fixed sites are expected to close the communications gap among countries—delivering to developing and industrialized nations alike the benefits of wireless data technology.”¹⁷⁴

New technologies,¹⁷⁵ specifically LEO-enabled wireless

¹⁶⁹ *Id.* General Dynamics is one of Final Analysis' strategic partners in this venture. Finley, *supra* note 159, at 36.

¹⁷⁰ Telemedicine describes the “field of electronic computer and communications networking for medical applications.” Nogueira, *supra* note 146, at 744 (1998) (citing Douglas D. Bradham, Dr. P.H., Sheron Morgan, PhD. & Margaret E. Daily, M.P.H., *The Information Superhighway and Telemedicine: Applications, Status, and Issues*, 30 WAKE FOREST L. REV. 145, 150 (1995)).

¹⁷¹ Modanlo, *supra* note 168, at 34.

¹⁷² Djiwatampu, *supra* note 163, at 42.

¹⁷³ See, e.g., Modanlo, *supra* note 168, at 34.

¹⁷⁴ *Id.*

¹⁷⁵ IBM's CEO, Lou Gerstner, adds that in addition to policy initiatives to improve access, changes in computing technology will accelerate access.

Beyond bringing down telecommunications rates, equal access will require a change in the current model of personal computing. On this front, there's a lot more to feel good about. Up until now, getting to the Net meant having—or having access to—a full-blown personal computer. But today, we can say with confidence that this is going to change, and change forever. The PC's reign as the center of innovation and investment in our industry is over. Within a few years, most of the devices that people use to access the Net will be non-PC devices—wireless hand-held computers, screen phones, Web-enabled TVs,

Internet applications and protocols, are creating supreme opportunities for “poor nations to leapfrog into the 21st century.”¹⁷⁶ Many developing countries cannot afford the terrestrial infrastructure required to build an extensive communications network, especially one that extends beyond urban centers.¹⁷⁷ Other barriers to effective communications include geography, technology, cost, and sometimes the lack of political will to overcome difficulties.¹⁷⁸ Noting that LEO technology now provides a low-cost way of transcending these barriers and linking all people, it is argued that to “fail” in the task of establishing a LEO-enabled network “is to convict many millions of people to a continued life of isolation, poverty, poor health and lack of economic opportunity.”¹⁷⁹

Wireless data enablers such as Little LEO systems can “empower” rural areas by providing them the opportunity to meaningfully participate in the “world’s mainstream of economic opportunities, education, and health.”¹⁸⁰ The health, education, and economic benefits to people in rural, remote, or economically-depressed areas cannot be overstated. For example, wireless data systems will facilitate the practice of telemedicine that allows “patients and doctors in rural or economically depressed areas [to] immediately access specialized services that their communities lack, thereby increasing convenience, diagnostic ability, and the

public access kiosks, others that haven’t even been invented yet. All these devices will bring hundreds of millions of people to the Net quickly, and more cost-effectively than ever before. So I believe the Net has the potential to reduce the gap between the ‘haves’ and the ‘have-nots,’ not widen it. We have a great opportunity to take unprecedented levels of information and learning to the entire world regardless of an individual’s income or where they live.

Client Perspectives, supra note 20.

¹⁷⁶ Nogueira, *supra* note 146, at 740, (quoting *Mandela Reminds Telecom Firms that Half the World Has No Phone*, FORT WORTH STAR-TELEGRAM, Oct. 4, 1995, at B1).

¹⁷⁷ Djiwatampu, *supra* note 163, at 40.

¹⁷⁸ *Id.*

¹⁷⁹ *Id.* According to an official of a South African telecom company, LEO satellite systems will enable developing countries to obtain low-cost state of the art communications systems while avoiding “the growing pains the First World went through.” Nogueira, *supra* note 146, at 742 (citing *Mandela Reminds Telecom Firms that Half the World Has No Phone*, FORT WORTH STAR-TELEGRAM, Oct. 4, 1995, at B1).

¹⁸⁰ Djiwatampu, *supra* note 163, at 41.

overall quality of local medical care.”¹⁸¹ Using wireless technology, health care providers will have enhanced ability to consult with colleagues anywhere in the world about matters such as examinations of X-rays, EKGs, and biopsy samples (reduced to computer data) by experts worldwide, thus improving health services.¹⁸² Additionally, it is anticipated that Little LEO systems can help international efforts to control, monitor, and limit the spread or outbreaks of infectious diseases.¹⁸³ Similarly, Little LEO systems may significantly extend access to education to rural areas. By facilitating the development of virtual schools and libraries in remote areas, the wireless Internet phenomenon could revolutionize educational services and learning in economically-depressed or remote rural areas.¹⁸⁴

Given these factors, it is no surprise that some have concluded that access to the new communications technologies is both a

¹⁸¹ Douglas D. Bradham, Dr. P.H., Sheron Morgan, Ph.D. & Margaret E. Daily, M.P.H., *The Information Superhighway and Telemedicine: Applications, Status, and Issues*, 30 WAKE FOREST L. REV. 145, 147 (1995)).

¹⁸² Nogueira, *supra* note 146, at 744 (citing Charles Petit, *Brave New Medicine: Wondrous Technology Could Bring Back the House Call*, U.S. NEWS AND WORLD REP., Dec. 1, 1997, at 82).

¹⁸³ *Id.* at 745 (citing David P. Fidler, *Return of the Fourth Horseman: Emerging Infectious Diseases and International Law*, 81 MINN. L. REV. 771, 794-800 (1997), and David P. Fidler, *Mission Impossible? International Law and Infectious Diseases*, 10 TEMP. INT'L & COMP. L. J. 493, 501-02 (1996)). The World Health Organization (WHO) is already planning to take advantage of satellite technologies to monitor and contain the spread of pandemics. *Id.*

¹⁸⁴ *Id.* at 744. (citing Mary Beth Marklein, *Computers Allow a Virtual Shift in Higher Learning*, USA TODAY, Dec. 8, 1996, at 7D, and Daniel M. Kohn, *Policy Challenges and Opportunities for Global Mobile Personal Communications by Satellite: The Teledesic Viewpoint*, at <http://www.itu.ch/pforum/paper2-e.htm> (last visited Sept. 30, 2000)). Since LEO systems do not depend on massive terrestrial infrastructure, it is hoped that they can be used to provide emergency communications in the wake of natural disasters such as floods and earthquakes. *Id.* at 746 (citing Marc Leroux, *Policy Challenges and Opportunities for Global Mobile Personal Communications by Satellite: The Odyssey Viewpoint*, at <http://www.itu.ch/pforum/paper1-e.htm> (last visited Sept. 30, 2000)). It is also hoped that LEO satellite systems can facilitate intercultural understanding and “political globalization,” by facilitating and speeding up a “convergence of basic political and economic values” that heighten awareness of the oneness of the human race. *Id.* at 745 (citing Alex Y. Seita, *Globalization and the Convergence of Values*, 30 CORNELL INT'L L. J. 429, 447-61 (1997)).

“moral imperative” and a “social justice issue.”¹⁸⁵ Vice President Gore has argued that the developed nations have an obligation to promote information technology in the Third World to advance the well-being of people in developing countries.¹⁸⁶ Gore noted that in this age of the “information superhighway,” a modern telecommunications infrastructure is an essential precondition for “economic growth and development.”¹⁸⁷ Meanwhile, World Bank President James Wolfensohn is optimistic about the prospects of bridging the global digital and developmental gaps in a wireless web world:

There is no reason why hundreds of millions of people living in Central Asia, Latin America or Africa should be cut off from the ideas changing the rest of the world—or why these ideas should not be enriched by their local experience—simply because of a lack of readily available cable or satellite technology. The capacity of the Internet—yet to be fully imagined—to eliminate forever the knowledge gap between rich and poor countries may be the single most important determinant of what our world will look like in fifty years. Whether it be linking rural villages in India with one another, health clinics in Kazakhstan to hospitals in Paris, or farmers in Ukraine to commodity markets in Chicago, we have the power to accelerate development by generations.¹⁸⁸

Bridging the digital divide is more than simply a matter of international social justice or moral obligation. The new wireless order will be a bonanza for global business and the forces of economic globalization. Whereas 85% of all Internet commerce was generated inside the United States two years ago, “most forecasts now indicate that by 2003, at least 35% of e-commerce

¹⁸⁵ Djiwatampu, *supra* note 163, at 42.

¹⁸⁶ Leahy & O'Brien, *supra* note 29, at 14 (1999); *see also* Al Gore, *Bringing Information to the World: The Global Information Infrastructure*, 9 HARV. J. L. & TECH. 1, 5 (1996). Vice President Gore introduced the U.S. approach towards a Global Information Infrastructure (GII) at the First World Telecommunications Development Conference in March 1994. Leahy & O'Brien, *supra* note 29.

¹⁸⁷ Nogueira, *supra* note 146, at 743 (citing Al Gore, *supra* note 186, and Christopher J. Sozzi, *Project Finance and Facilitating Telecommunications Infrastructure Development in Newly Industrialized Countries*, 12 SANTA CLARA COMPUTER & HIGH TECH. L. J. 435, 436 (1996)).

¹⁸⁸ Wolfensohn, *supra* note 42.

will take place outside the United States, and that percentage will grow as access to the computing infrastructure becomes more universal.”¹⁸⁹ The “emerging networked world,” augurs well for economic globalization as it dissolves barriers to market access and opportunity and redefines our notions of national and regional borders.¹⁹⁰ The Internet is a great catalyst for economic expansion around the world, and, in turn, the expansion of access and e-commerce creates jobs.¹⁹¹

A. The Past as Prologue: Common Heritage of Mankind Redux?

Already, there have been references to treating information and the benefits of new information technologies, including cyberspace and the Internet, as the heritage of humankind.¹⁹² For example, in the Declaration of Buenos Aires on Transborder Data Flow, several Latin American countries and members of the Intergovernmental Bureau for Informatics agreed “to encourage all international actions and policies on harmonization leading to consider informatics as Mankind’s Heritage.”¹⁹³

¹⁸⁹ *Client Perspectives*, *supra* note 20.

¹⁹⁰ *Id.*

¹⁹¹ *Id.* IBM’s CEO, Lou Gerstner, observes that the economic boom spurred by the expansion of the Net and Internet access has created success stories such as India which is already doing \$2 billion a year in software exports. *Id.* IBM and its competitors have established operations in India, with IBM alone employing over 2,000 people in two joint venture companies. *Id.*

¹⁹² Brown, *supra* note 114, at 19; *see also Info-Ethics* 98, at http://www.unesco.org/webworld/infoethics_2/eng/closing_remarks.htm (last visited Sept. 30, 2000) (Ms. Vigdis Finnbogadottir’s Closing Speech). The common heritage principle rejects state sovereignty over common resources and recommends that some of the benefits of commons should be allocated to all humankind, including future generations. Brown, *supra* note 114. For an extensive analysis of the common heritage principle, including its varying meanings and implications, *see* J.M. Spectar, *Saving the Ice Princess, NGOs, Antarctica and International Law in the New Millenium*, 23 SUFFOLK TRANSNAT’L L. REV. 157 (2000). Due to the conflicting interpretations of the principle, it tends to have a divisive effect on North-South negotiations, sometimes precipitating U.S. defections from global resource agreements. *See generally* J.M. Spectar, *Elephants, Donkeys or Other Creatures? Presidential Election Cycles & the International Law of the Global Commons*, 15 AM. U. INT’L L. REV. 975 (Spring 2000).

¹⁹³ Brown, *supra* note 114, at 66 n.228 (citing ARTHUR D. LITTLE, DECISION RESOURCES: IMPACT REPORT ON THE REGULATION OF TRANSNATIONAL DATA FLOW (Mar. 1981)). “These conflicting views of information as the common heritage of mankind, on

At UNESCO's Second International Conference on Info-Ethics (1998), one of the participants, Ms. Finnbogadottir, referred to cyberspace information as "the great heritage of the people" and called for all knowledge and technology of cyberspace to be treated as public domain.¹⁹⁴ This vision entails a "participation principle," asserting that "every citizen in the world should have the right to meaningful participation in the Information Society."¹⁹⁵ Since access to the Internet empowers individuals, "information technology is by its very nature a human right, ought to be regarded as an obvious human right, and ranks alongside the concept of human liberty itself."¹⁹⁶ The right to information is "recognized not just as a social goal, but also as something in which everyone can participate, irrespective of gender, ethnic background, or financial standing."¹⁹⁷ In a bid to bring human culture, values and dignity into the governance of cyberspace, Ms. Finnbogadottir urged UNESCO to deal with "transnational and metanational cyberspace issues."¹⁹⁸ In order to combat the threat of private monopolies and domination of cyberspace by profit-oriented companies, she urged UNESCO to campaign for "a different type of standard, based on a minimum standard of universal access to information, which would create a genuine free flow and prevent the right to know things from becoming a

one hand, and as intellectual property or a produced commodity, on the other hand, give rise to very different perspectives on, and suggested very different regulations for, international flow of information." *Id.* In addition, Professor Christol refers to the "scientific information" gleaned from the moon as well as "broadcast spectra, and orbital positions" as part of the "intangible natural resources" of the moon that can be designated as the common heritage of mankind. *Id.* at 67 n.228 (citing Carl Q. Christol, *The Common Heritage of Mankind Provision in the 1979 Moon Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, 13 INT'L LAW. 429 (1980)). Nevertheless, noting that information is not a "natural" resource, Brown concludes despite the "moral concerns" and the "sense of sharing" and oneness of humankind entailed in the "global fairness revolution" and the associated concept of the common heritage, "it would be difficult to apply to information as a natural resource." Brown, *supra* note 114, at 68.

¹⁹⁴ *Info-Ethics* 98, *supra* note 192.

¹⁹⁵ *Id.*

¹⁹⁶ *Id.*

¹⁹⁷ *Id.*

¹⁹⁸ *Id.*

monopoly product that is only sold to those of us who pay enough for it.”¹⁹⁹ Finally, she urged the “setting up of an information welfare state or incorporating information into the welfare state philosophy.”²⁰⁰ UNESCO’s goal for the coming millennium, she urged, should be to foster a “global governance” of cyberspace “that is not driven by interest” and to “create the most open public library ever, embracing the whole world through cyberspace.”²⁰¹

Yet, policymakers must tread very cautiously with respect to new order frameworks, including the common heritage of mankind.²⁰² As the article asserts, UNESCO’s new order approach to telecom access was ill-advised and inefficacious, especially since it alienated key segments of the international community to the degree that it was perceived as restricting free enterprise and disregarding traditional rules of international law.²⁰³ Given the weaknesses of the new order approach to “access,” it is important for policymakers to take a fresh approach, one more consistent with the possibilities of the post-Cold War world and the new international digital economy. The recommendations put forth below seek to harness the power and possibilities created by revolutionary wireless Internet technologies to narrow and close the global digital gap.²⁰⁴

B. Monday Morning Insights: Recommendations for Bridging the Global Digital Divide

Taking advantage of the insights gained from the above case studies of new order approaches, the recommendations put forth here are tempered by a pragmatic recognition of the limits of international law. The recommendations forgo the grandiose schemes of the new order movements, relying instead on the potential synergies created by revolutionary LEO-satellite-enabled

¹⁹⁹ *Id.*

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² See generally J.M. Spectar, *The Fruit of the Human Genome Tree: Cautionary Tales about Technology, Investment & the Heritage of Humankind*, 23 LOYOLA OF L.A. INT’L COMP. L. REV. (Fall 2000).

²⁰³ See *supra* notes 70-144 and accompanying text.

²⁰⁴ See *infra* notes 205-53 and accompanying text.

wireless technologies, open markets, free trade, constructive partnerships, and the involvement of people from local to global levels.

1. Privatization/Liberalization/Free Trade

To fully realize the benefits of the new satellite technologies that will enable the wireless Internet revolution, states should continue to privatize and open up their markets to foreign investors. The trend towards privatization and liberalization is not only desirable, it is both necessary and timely. To bridge the digital gap with the help of LEO technologies, it is essential for all developing countries to significantly privatize and liberalize their telecommunications sectors.

Despite the slow pace of privatization, it is becoming increasingly clear to many developing countries that increased competition in telecommunications is essential for success in the “global information economy”²⁰⁵—a precondition for bridging the digital divide. Throughout the developing world, but especially in Latin America, there is a “wave of liberalization” that is spurring a “dual boom” in mobile communications and in the “uptake of the Internet.”²⁰⁶ In fact, Argentina, Bolivia, Cuba, Peru, and Venezuela started to open up their telecom markets in the early 1990s.²⁰⁷ While Chile and Colombia attempted immediate deregulation, significant entry barriers were placed in the case of the latter, “thus reducing the number of operators interested in gaining a market foothold.”²⁰⁸ Meanwhile, Brazil, which kicked off “Latin America’s biggest-ever privatization with three fixed-line operators, eight cellular companies, and the international long-distance carrier being sold to the highest bidders,”²⁰⁹ remains a

²⁰⁵ See *U.S. Warns South Africa on its Telecom Rules*, NEWSEDGE, (NewsEdge Corp.), (May 11, 2000) (on file with author).

²⁰⁶ *ITU Telecom Americas 2000 Closes on Optimistic Note: Region’s Mobile and Internet Boom Set to Continue*, ITU Newsroom Press Release, at <http://www.itu.int/newsroom/> (April 15, 2000).

²⁰⁷ *Mobile Boom in Latin America*, NEWSEDGE, (NewsEdge Corp.), (May 11, 2000) (on file with author).

²⁰⁸ *Id.*

²⁰⁹ *Brazil To Host Americas Telecom 2000*, *supra* note 31.

“hybrid of other Latin American models.”²¹⁰ In addition, it appears that several African countries are also preparing to enter the digital age economy. A report presented at the conference on “Global Connectivity for Africa” concluded that “many African countries have already come to accept that users would benefit from permitting private interests to offer public telecommunications services, at least to the extent of limiting the scope of the incumbent operator’s monopoly.”²¹¹

Another key step toward liberalization would be for all developing countries to participate fully in the WTO’s General Agreement on Trade in Services (GATS).²¹² To that effect, they should open their markets and submit a schedule of commitments as well as offer Most Favored Nation trading status (MFN) to other WTO members.²¹³ In trade talks held under the aegis of the WTO in February 15, 1997, sixty-nine countries agreed to open up

²¹⁰ *Mobile Boom in Latin America*, *supra* note 207.

²¹¹ *Global Connectivity for Africa: Key Issues for Decision Makers*, at <http://www.worldbank.org/infodev/projects/bmpe.pdf> (last visited Sept. 30, 2000). The Conference on “Global Connectivity for Africa” took place in Addis Ababa, Ethiopia, June 2-4, 1998. *Id.* During the Conference, over 300 market leaders in the field of telecommunications discussed and examined projects that can positively affect the growth and development of public telecom networks in Africa. *Id.* While most developing countries are liberalizing and privatizing in anticipation of great rewards from the new telecom revolution, some countries have been slow to embrace change and others have even resisted change. *Mobile Boom in Latin America*, *supra* note 207. For example, in Uruguay the public voted down privatization and market liberalization. *Id.* Meanwhile, despite considerable progress in recent years, some African countries have been even more tentative—to the chagrin of the United States. Early in May 2000, the U.S. government warned “South Africa that economic growth will be stifled” if the South African Telecommunications Regulatory Authority (SATRA) was “heavy-handed in regulating telecommunications services such as Internet access and data transmission.” *U.S. Warns South Africa on its Telecom Rules*, *supra* note 205. The United States government also stated that a lenient approach to regulation will “encourage competition and allow new services to flourish to the benefit of the consumer.” *Id.* Ironically, AT&T, the U.S. telecommunications giant that used to enjoy a virtual monopoly situation until it was broken up, recently complained to the United States government that the South African telecom giant, Telkom, is “flouting international trade agreements by refusing to provide additional bandwidth to companies that it sees as its rivals.” *Id.*

²¹² See Leahy & O’Brien, *supra* note 29.

²¹³ *Id.* at 17 n.86.

their telecom markets to foreign investors and competition.²¹⁴ The sixty-nine, mostly developed, states signed on to the WTO's Agreement on Basic Telecommunications, the fourth protocol to the GATS.²¹⁵ Since all members of the WTO have accepted the GATS as an annex, they have all technically signed on to the Agreement on Basic Telecommunications, which is incorporated into the GATS as an annex.²¹⁶ Nevertheless, many developing countries abstained on the grounds that they would be better off negotiating with individual corporations rather than being compelled to treat all states in a non-discriminatory manner.²¹⁷ Given the fact that countries participating in the agreement account for 95% of all revenue in international telecommunications services,²¹⁸ it would appear that the decision to sit out the agreement is hardly a boon to developing countries. As IBM President Lou Gerstner has stated, the first goal of governments seeking to bridge the digital divide should be to open their markets and actively endorse the WTO's basic telecommunications agreement.²¹⁹

Governments have to end telecommunications monopolies and encourage competition. Markets around the world have to be open to new network operators and Internet service providers. There's no way the Net would have grown the way it has in the United States if users faced the leased line rates that prevail in Europe, if the market for Internet services was closed, or people had to deal exclusively with government or monopolistic providers. The World Trade Organization took an important step toward more open access with a general agreement on basic telecommunications. Now it's up to individual countries to step up and implement their commitments and to conceive even more ambitious ways to liberalize their telecommunications infrastructures.²²⁰

²¹⁴ *Id.* at 17.

²¹⁵ *Id.*

²¹⁶ *Id.* at 17 n.86.

²¹⁷ *Id.* at 17 n.89.

²¹⁸ *Id.* at 17 n.88.

²¹⁹ *Client Perspectives*, *supra* note 20.

²²⁰ *Id.*

The results of privatization and liberalization have been impressive. In 1999, the number of Internet hosts more than doubled in Latin America; this represented the fastest growth in the world that year.²²¹ Mobile subscribers grew from 3.5 million in 1995 to 38 million in 1999.²²² Eight years following Chile's transformation from a monopolistic to a competitive system (1988-96), the number of phone lines increased more than four-fold, from 500,000 to 2,200,000, and the growth rate spiraled from 5% to about 20%.²²³

2. Strategic Partnerships & Alliances

To bridge the global digital divide, developing countries must form partnerships with corporations and countries in the developed world, as well as with governmental and nongovernmental organizations.

Many developing countries are recognizing that strategic partnerships for mutual profit are potentially more rewarding than the confrontational models symbolized by demands, however legitimate,²²⁴ for new orders and the North-South diatribes. Below, the article presents a model of the type of "strategic partnership" between institutions and corporations across the North-South divide that portend well with respect to the vitality of transnational efforts to increase Internet access in the developing world thereby "narrow[ing] the gap—or digital divide."²²⁵

An example of the type of partnership required to bridge the gap is the arrangement between Softbank, a global Internet

²²¹ *Mobile Boom in Latin America*, *supra* note 207.

²²² *Id.*

²²³ Leahy & O'Brien, *supra* note 29, at 2 n.12.

²²⁴ As indicated earlier, these recommendations do not necessarily imply that all the "new order" demands were per se illegitimate. See *supra* notes 205-53 and accompanying text. The recommendations are simply a pragmatic response to a real problem that needs to be addressed immediately. It may well be that a new order is needed, but in the meantime, much work needs to be done by sober-minded professionals to improve the daily lives of everyday people. Given this caveat, even idealists committed to the progressive development of international relations must set aside starry-eyed dreams for pragmatic solutions derived from the bitter pills of history.

²²⁵ *World Bank Group and Softbank*, *supra* note 44.

company,²²⁶ the International Finance Corporation (IFC),²²⁷ and Internet companies in developing countries. The groundbreaking partnership, formed on February 12, 2000, plans to spawn Internet companies in 100 developing countries by, inter alia, providing risk capital and support for Third World entrepreneurs to turn their business ideas into Internet enterprises.²²⁸ Together, Softbank and the IFC will invest \$200 million to found Softbank Emerging Markets (SBEM) in order to incubate Internet-related businesses in developing countries, both by investing seed money and by providing an array of technological, legal, and management support to convert ideas into solid businesses.²²⁹ SBEM also plans to speed the creation of Internet-anchored businesses by working with a network of global industry leaders and local partners and to help entrepreneurs in developing countries use established business models to start up locally adapted versions of some of the world's leading Internet companies.²³⁰ The project will strive to

²²⁶ *Id.* Softbank is one of the world's leading Internet market forces, with ownership positions in more than 120 Internet companies. *Id.* Using its unique Internet incubation and management concept, it is creating market synergies for its family of companies on a global scale. *Id.* Its activities encompass distribution, publishing, Internet media platforms, a broad range of e-commerce businesses, and joint ventures with companies including Microsoft, Cisco, Yahoo!, the National Association of Security Dealers, and many other market leaders. *Id.* Softbank is the largest shareholder in leading Internet companies including Yahoo!, E*TRADE, and ZDNet. *Id.* In Europe, Softbank has established Internet joint ventures with News Corporation and Vivendi. *Id.*

²²⁷ *Id.* The International Finance Corporation (IFC), a part of the World Bank Group, seeks to promote private sector development in developing countries to alleviate poverty. *Id.* It finances private sector investments in the LDCs, mobilizes capital in the international financial markets, and provides technical assistance and advice about the private sector. *Id.*

²²⁸ *Id.* Softbank is currently operating or developing more than thirty Internet companies worldwide, including local operations of Yahoo! and WebMD. *Id.* The company has established an impressive track record for building, launching, and nurturing Internet companies and for its "incubation approach that has proven critical to fast-paced development of online enterprises with the key factor of first-mover advantage." *Id.*

²²⁹ *Id.*

²³⁰ *Id.* SBEM was to be based Silicon Valley, California and had planned to announce its first incubated company in May 2000. *Id.* With initial capital of \$200 million, SBEM plans to establish a Global Incubation Center (GIC) to facilitate the transfer of the latest Internet technologies and business models from DCs to LDCs. *Id.* The GIC will ensure technical resources for the new companies and promote the

“improve Internet access levels” by generating investor interest in emerging markets, which in turn should help reduce the price of Internet access and increase the number of subscribers.²³¹ SBEM plans to promote free or subsidized Internet access to educational institutions through its partners in developing countries.²³² The IFC will also join Softbank’s Latin America- and China-focused Internet investment funds, bringing its commitment to global Internet development to \$500 million.²³³ The scale of this ambitious partnership²³⁴ has won the endorsement of World Bank Group²³⁵ President James D. Wolfensohn who remarked that the groundbreaking initiative is “a lead in the effort to close the [digital] gap” that is “growing exponentially.”²³⁶ According to

development of a more advanced technological base in the target countries. *Id.* SBEM will also establish joint ventures with major Internet companies to “oversee the company’s global roll-out” in the developing countries. *Id.* It is hoped that joint ventures will, in turn, spur the development of joint ventures or partnerships with local businesses and investors to “build, launch and operate local Internet companies, utilizing the parent’s model, for each targeted country.” *Id.* SBEM also plans to provide financial support and strategic resources to local Internet ventures to enable indigenous entrepreneurs to transform their business models into viable going concerns. *Id.*

²³¹ *Id.*

²³² *Id.*

²³³ *Id.*

²³⁴ *Id.* Masayoshi Son, President and CEO of Softbank Corp., referred to this effort as an “historic partnership” that will “play a crucial role in building the new digital economy in developing countries around the world.” *Id.*

²³⁵ *Id.* Having identified the global digital divide as a grave impediment to development, the World Bank is taking an active role in building access to the Internet in developing countries and “becoming a knowledge center for the emerging markets.” *Id.* The World Bank advises governments on how to “shape policies, rules and regulations to encourage growth of the Internet industry, and has supported infrastructure, from telecommunications networks to delivery systems and payment mechanisms.” *Id.* The World Bank Group has also set up a new Global Information and Communications Technologies department to bring together IFC’s private sector “transactional expertise” as well as the World Bank’s policy and regulatory advice to facilitate the transfer of new information technologies to the LDCs. *Id.*

²³⁶ *Id.* On the occasion of the formation of the agreement, Wolfensohn waxing sentimental, gushed to reporters, “I have not ever had a better Valentine’s Day present than this today . . . [There’s a] sort of pledge of love and affection on this day as we commit ourselves to the growth of the developing world, and to peace, and to justice.” *IFC and Softbank to Aid Internet Growth in Poor Countries: Venture Makes Wolfensohn Happy on Valentine’s Day*, The World Bank Group, at <http://www.worldbank.org/developmentnews/archives/html/feb14-18-00.htm> (Feb. 14-18, 2000).

Wolfensohn, the strategic partnerships between the IFC, Softbank, and entrepreneurs in developing countries:

will accelerate the inclusion of the developing countries in the information revolution. It will transfer technology from the rich countries to the developing world, fostering sustainable new local businesses which will promote prosperity and reduce poverty. And it will, I hope, encourage others to follow with their own investments and initiatives to establish technology and information centers all around the world.²³⁷

3. *Involvement of Local Communities & Grassroots Organizations*

Efforts to bridge the global digital divide must include all citizens in a grassroots effort involving community volunteers, charitable organizations, and nongovernmental organizations from local to global levels. National governments should promote the efforts of communities through grants and other resources.

Unlike the top-down approach of the new order movements that were mostly state-to-state dialogues to the total exclusion of the people of the world, the task of bridging the global digital divide cannot be accomplished by states or governments alone. Community activists, charitable organizations, nongovernmental organizations, and educational institutions should be involved in developing the policies, plans, and processes to expand access and narrow the global digital divide.

The United States' efforts to narrow the digital divide provide excellent examples of grassroots participation. Some of the laudable things American communities are doing to bridge the gap include: (1) setting aside specific days for volunteerism designed to expand Internet access;²³⁸ (2) using a network of civic organizations to secure and donate or provide Internet-related

²³⁷ *World Bank Group and Softbank*, *supra* note 44.

²³⁸ *Radio Address of the President and the Vice President to the Nation*, at <http://www.pub.whitehouse.gov> (Feb. 8, 1997). To meet the goals of bringing the United States into the Information Age, more than forty states held NetDays, when Americans "came together to actually pull cable, hook up computers, and install software to connect local schools to the Information Superhighway." *Id.* California's Net Day 1996 joined together 20,000 volunteers who connected 4,000 schools in just one day. *Id.*

technology to underserved communities;²³⁹ (3) supporting free or low cost services such as cable in the classroom;²⁴⁰ (4) providing free access for qualified businesses;²⁴¹ (4) developing databases to facilitate research;²⁴² (5) sponsoring information-sharing events or seminars, such as the U.S. Digital Divide Summit²⁴³ and Digital Divide Forum,²⁴⁴ to raise awareness and develop strategies; (6)

²³⁹ *Digital Divide Summit*, *supra* note 17. Corporations can support these efforts by donating outmoded assets, such as computers, to get them off their books. *Id.* As one participant at the Digital Divide Summit noted, companies that are replacing old technology with new leading edge equipment can donate the outdated equipment to charity because systems that are not acceptable for business use may be more than adequate for home access. *Id.* Companies such as Regenerated.Org are pioneering a "social entrepreneurship" effort by regenerating computers from corporate America to underserved America. *Id.* The necessary reconditioning provides another opportunity to regenerate lives by providing technical training along with character and spiritual development. *Id.*

²⁴⁰ *Id.* (contribution of Megan Hookey). For example, through Cable in the Classroom, a non-profit, public service initiative funded by the cable television industry, about 80,000 schools receive a free cable connection and access to commercial-free educational programming. *Id.* The organization is also offering free workshops to help parents and teachers locate educational resources for the classroom. *Id.*

²⁴¹ *Id.* For example, the Project Cleveland 2000 program offers free Internet access, e-mail, and web site development to the area's small businesses. *Id.*

²⁴² *Id.* (contribution of Dr. Tony Wilhelm, Benton Foundation). One example is the Benton Foundation's Digital Divide Clearinghouse, a partnership with the America Online Foundation and the National Urban League. *Id.* The Foundation's Clearinghouse "provides a wealth of information, resources, and news on the digital divide, aimed at nonprofit organizations who find themselves on the wrong side of the divide. [Its] intention is to provide information and news in order to raise public awareness of the complexity of this issue as well as to empower nonprofits by providing them the tools they need to build capacity and participate fully in the digital economy." *Id.* Others have chosen to raise awareness by highlighting the issue of the "Digital Divide" as a theme in corporate education and volunteerism, thereby bringing more focus to corporate presence in local communities. *Id.* (contribution of Donald Caldwell, Nortel Networks).

²⁴³ *See id.*

²⁴⁴ *See NTIA Administrator Gregory L. Rhode Participates in New York "Digital Divide" Forum With Congressional Black Caucus Members and Business Leaders*, at <http://www.digitaldivide.gov/nyforum.html> (last visited Sept. 30, 2000). The Digital Divide Forum in Brooklyn, New York on April 17, 2000, organized by Representatives Edolphus Towns (D-NY) and Maxine Waters (D-CA) of the Congressional Black Caucus, focused on the challenges faced by minority companies and low-income Americans in efforts to narrow the digital chasm. *Id.* Participants included representatives from Bell Atlantic, GTE, AT&T, New Media Technology, Netcom Technological Solutions, the Telecommunications Development Fund, and

promoting "computer and Internet fluency" or literacy;²⁴⁵ and (7) increasing diversity in technology companies.²⁴⁶

Governments at all levels in the United States promote and support grassroots efforts to narrow the digital gap through policies and programs. For example, the Department of Education awards Technology Literacy Challenge grants to communities to equip classrooms with computers, link schools to the Internet, and train teachers in new information technologies.²⁴⁷ Local

WireAmerica. *Id.*

²⁴⁵ *Digital Divide Summit*, *supra* note 17 (contribution of Myfanwi Meyrick, The Digital Literacy Foundation, Inc.). For example, the Digital Literacy Foundation seeks to "chip away at the digital divide household by household," by delivering basic computer and Internet training courses at the end of which participants are given a computer to take home. *Id.* Similarly, The Academy of Information Technology plans to educate young people about career possibilities in the high technology area through its academies in public secondary schools located primarily in urban centers around the country. *Id.* (contribution of Gregg Batheil, National Academy of Foundation (NAF Academy) representative). Batheil indicated that sixty-five percent of the NAF Academy students have been identified as "at risk," and minority students comprised seventy-five percent of NAF student body. *Id.* The breakdown of the student population was as follows: 37% Black; 23% Hispanic; 13% Asian/Pacific Island; 25% Caucasian; and 2% other populations. *Id.* Ninety percent of NAF Academy graduates attend college. *Id.* "Ten pilot sites will be chosen for implementation of the Academy of Information Technology in September 2000, reaching a total of 350 to 400 students." *Id.* Depending on industry support, forty new schools will be added the following year, and the number of Academies will subsequently increase at a rate of forty to fifty per year thereafter. *Id.* "This expanding network of rigorous academies will prepare our information technology workforce for the next century." *Id.*

²⁴⁶ *Id.* (contribution of Butch Wing, Rainbow/PUSH Coalition). *Id.* It is important to increase high tech employment opportunities and partnerships for women, minorities, and other disadvantaged groups. *Id.* This includes diversity in management and boardrooms. *Id.* Reverend Jesse Jackson's Rainbow/PUSH Coalition launched the Silicon Valley Project of the Rainbow/PUSH Coalition in March 1999. *Id.* The aims of the project include seeking greater inclusion of women and minorities in technology firms and challenging Silicon Valley to "tap underserved markets, underutilized talent and untapped capital and include all communities in the growth and expansion of the region." *Id.*

²⁴⁷ *Radio Address of the President and Vice President to the Nation*, *supra* note 238. In 1996, the Department awarded \$14.3 million to Illinois, Mississippi, and New Mexico, in the first of what will be a total of \$200 million. *Id.* Meanwhile, the Department of Housing and Urban Development (HUD) sponsors "Neighborhood Networks," a community-based initiative of HUD that encourages the development of resource and computer learning centers in privately owned HUD-assisted or HUD-insured housing. *Digital Divide Summit*, *supra* note 17. The Agriculture Department's Rural Utilities Service provides targeted lending and technical advice to help establish

governments, such as the City of Seattle, also have taken significant steps in the national effort to bridge the digital divide by making a strong commitment to citizens, technology literacy, and access, as well as by instituting key policies.²⁴⁸ At the national level, the heads of state should use their bully pulpits to invite citizens to participate in efforts to narrow the digital gap.²⁴⁹

advanced telecommunications infrastructures in rural communities. *Rural Utilities Service*, at <http://www.usda.gov.rus/discover/index.htm> (last visited Sept. 30, 2000). The Commerce Department is also playing a key role in supporting programs at the grassroots level. See *U.S. Department of Commerce Awards \$328,245 to Operation Hope, Los Angeles, California, to Help Small, Disadvantaged Businesses Become Involved in Global E-Commerce*, at <http://www.doc.gov.eda/html/ophope.htm> (Apr. 18, 2000). The Department's Economic Development Administration (EDA) has also made several efforts to help small, disadvantaged businesses bridge the digital divide and tap into lucrative, global e-commerce opportunities. *Id.* For example, the Commerce Department awarded a \$328,245 grant to Operation Hope, Los Angeles, California, to assist the organization with construction of a facility to house computerized workstations, training programs, and traditional advisory and technical assistance services. *Id.* The grant will also help Operation Hope increase the number of communities served. *Id.* Using previous EDA grants totaling \$550,000, Operation Hope has facilitated over \$60 million in private financing, thus enabling start-up businesses as well as job creation. *Id.* The EDA works with local government and community groups to create new jobs, help preserve existing jobs, and spark industrial and commercial growth in economically depressed areas. *Id.* EDA awards are available to rural and urban communities in the throes of high unemployment or other severe economic distress. *Id.* The Operation Hope grant is a result of the EDA's Economic Adjustment Program, which helps localities design and implement strategies for facilitating adjustment to changes in their economic situation that are precipitating or threatening to cause severe economic dislocation, involving significant structural changes to the underlying economic superstructure. *Id.*

²⁴⁸ *Digital Divide Summit*, *supra* note 17 (contribution of David Keyes, City of Seattle). For example, Seattle has established a Citizens Literacy and Access Fund from cable franchise revenues. *Id.* In addition, Seattle created the position of Community Technology Planner. *Id.* The City has also developed a Technology Matching Fund to finance citizen-driven projects and leverage community assets and has created a Community Technology Access Center map and database which are updateable online. *Id.* Seattle has also negotiated with AT&T/TCI for 500 cable modem drops for public access, distributed free public access terminals in city facilities including police stations and neighborhood service centers, and worked with community groups to hold neighborhood technology summits. *Id.*

²⁴⁹ *Radio Address of the President and Vice President to the Nation*, *supra* note 238. For example, speaking to a group of high-tech executives and citizens in Palo Alto, California, President Clinton affirmed his commitment, noting:

I have made closing this digital divide a big priority. It is a big priority in our budget and a big priority for trying to enlist the energies of our fellow citizens.

4. Education

The global effort to bridge the digital divide should be centered around education, from the elementary level to adult level computer education. National governments should make computer literacy a number one priority.

The efforts to bridge the digital gap from the local to the global level must center on education and students at all levels. In the United States, the Clinton-Gore Administration has called Internet-assisted education “a critical national security issue” for the future of the United States.²⁵⁰ Both Clinton and Gore have urged all schools to “harness the powerful forces of technology” at the dawn of a new millennium.²⁵¹ The Clinton Administration has also worked with Congress to enact legislation that extends universal service to schools, libraries, and rural health care providers, enabling them to access the Internet more easily through the E-rate program.²⁵² Several institutions of higher

That’s why I issued a national call to action, to enlist the support of businesses, state and local governments, community groups, foundations, schools and volunteers. Already, more than 400 organizations have signed on to our call.

Remarks by the President in Digital Divide Discussion with the East Palo Alto Community, at <http://www.pub.whitehouse.gov> (Apr. 17, 2000). Because the Internet makes it possible for children in the most isolated rural towns or depressed inner cities and the most comfortable suburbs to have common access to the same universe of knowledge, the Administration has repeatedly challenged America to connect every classroom and library to the Internet. *Radio Address of the President and the Vice President to the Nation, supra* note 238. To achieve universal access, the Clinton administration sought a doubling of U.S. investments in education technology to \$500 million for computers, teacher training, and educational software for U.S. schools. *Id.*

²⁵⁰ *Radio Address of the President and the Vice President to the Nation, supra* note 238.

²⁵¹ *Id.*

²⁵² *The Clinton-Gore Administration's Record to Help Close the Digital Divide, at <http://www.whitehouse.gov/WH/New/NewMarkets-0004/20000417-7.html> (last visited Oct. 19, 2000).* The e-rate program requires telecommunications carriers to provide, upon request by an eligible school or library, commercially available telecommunications services at a discounted rate. *Id.* The \$2.25 billion “e-rate” program, designed to connect schools and libraries to the Internet, provides 20% to 90% discounts to facilitate internet connectivity, with the deepest discounts going to the most economically and geographically disadvantaged schools. *Id.* In 1999, 82% of public schools (over 78,000) and 51% of public libraries received public funding. *Id.* It is estimated that by the end of 2000, the e-rate program will have funded \$6.25 billion in infrastructure and services to schools and libraries. *Id.*

learning are also playing important roles with respect to narrowing the digital divide and are creating "models" that can be studied and perhaps emulated on a worldwide basis.²⁵³

5. Adherence to Core Principles of Traditional International & Economic Law

Any future Wireless Internet regime negotiation is likely to fail if negotiating parties disregard the fundamental norms of traditional international law and attempt to create "new orders" that impose obligations with consent.

"New order" approaches, particularly to the extent that they are dependent on "quasi-legislative" fiat or one-sided resolutions, are ineffective approaches for achieving equitable access to global telecommunications. The developed countries with significant interests in the status quo are unlikely to cooperate with regimes that seek to achieve a fundamental restructuring to the detriment of their interests. In addition, as noted earlier, the developing states lack the "power" to impose any new order.

²⁵³ *Digital Divide Summit*, *supra* note 17 (contribution of Robert Hallissey Ph.D., Seton Hall University). For example, Seton Hall University has developed an innovative technology-driven demonstration project that seeks to develop a comprehensive program to encourage underrepresented groups, such as women and minorities, to enter careers in technology and business. *Id.* The project builds on the University's extensive network of partnerships with inner city schools in its Upward Bound Program for disadvantaged school-aged youth as well as the University's Educational Opportunity Program (EOP). *Id.* "The project fosters mentor relationships between the Upward Bound high school students and the University's EOP students." Participants in both programs include a high percentage of female minorities, and in both groups, a majority of the students come from families where a mother, grandmother, or aunt is the head of the household. *Id.* Known as PROJECT SHUTTLE, Seton Hall University Technology Training for Lifelong Education engages, encourages, and equips these underrepresented groups to enter careers in business and technology through an intensive computer-training program which will result in marketable skills as a minimum outcome, and a certificate or degree in a business or technology field as the ultimate outcome. *Id.* The U.S. Department of Education funded the project through the Fund for the Improvement of Post-Secondary Education (FIPSE). *Id.* Similarly, EDUCAUSE has been awarded a four-year, \$6 million grant from the National Science Foundation to develop projects addressing access to technology issues facing certain disadvantaged groups. *Id.* (contribution of David Staudt, EDUCAUSE). The EDUCAUSE project addresses Internet connectivity, campus network architecture, and technical support issues faced by tribal colleges, Historically Black and Predominantly Black Colleges and Universities, and Hispanic-serving institutions. *Id.*

V. Conclusion

The NWICO framework for bridging the digital divide was counter-productive because it alienated the United States, a necessary party for any realistic global telecommunications regime due to its technological and economic dominance. In light of the new possibilities created by LEO technologies, it is incumbent upon all states to seek new constructive opportunities for broadening or expanding access. The recommendations for bridging the digital gap proposed here are designed to harness the power and possibilities created by dynamic new technologies, while at the same time avoiding the pitfalls of the new order approach.

